

CLAIMS

1. A device having:

a first wafer having a first area and a second area opposed to each other with a first scribe area in-between, wherein a first mechanical element and a first pad are formed in said first area and a second mechanical element and a second pad are formed in said second area, and

a second wafer which selas said first mechanical element and said second mechanical element with a prescribed space over each of said first mechanical element and said second mechanical element formed in said first wafer, wherein:

said second wafer is provided with an aperture having a first side and a second side opposed to said first side, for exposing said first pad and said second pad, and

said aperture is so positioned that said first pad is placed between said first side and said first scribe area and said second pad is placed between said second side and said first scribe area.

2. The device according to Claim 1, wherein:

said first wafer has a second scribe area and a third scribe area,

said aperture has a third side crossing said first side and said second side and a fourth side opposed to said third side,

the fourth side of said aperture is placed

between said second scribe area, said first pad and said second pad, and

the third side of said aperture is arranged to be placed between said third scribe area, said first pad and said second pad.

3. The device according to Claim 1, wherein:

said first wafer has:

a second scribe area,

a third area opposed to said first area with said second scribe area in-between, and

a fourth area opposed to said second area with said second scribe area in-between and opposed to said third area with said first scribe area in-between, wherein:

a third mechanical element and a third pad are formed in said third area,

a fourth mechanical element and a fourth pad are formed in said fourth area,

said aperture is so arranged as to expose said third pad and said fourth pad, and

said aperture is so arranged as to place said third pad between said first side and said first scribe area and to place said fourth pad between said second side and said first scribe area.

4. The device according to Claim 3, wherein:

said aperture has a third side crossing said first side and said second side and a fourth side opposed to said third side,

said aperture is so arranged as to place said first and second pads between said third side and said second scribe area and to place said third and fourth pad between said fourth side and said second scribe area.

5. The device according to Claim 1, wherein:

 said first wafer further has a first laminate film formed between said first pad and said first mechanical element in said first area and a second laminate film formed between said second pad and said second mechanical element in said second area, and

 said second wafer seals said first and second mechanical elements by being adhered to said first laminate film and said second laminate film.

6. The device according to Claim 1, wherein:

 said first wafer has a silicon substrate and a transistor formed over the silicon substrate.

7. The device according to Claim 1, wherein:

 said first mechanical element has a movable object having a movable part and a fifth pad formed underneath said movable object.

8. The device according to Claim 1, wherein:

 said first wafer further has second through fifth scribe areas,

 said first area is surrounded by said first, second, third and fourth scribe areas, and

 said second area is surrounded by said first, second, third and fifth scribe areas.

9. The device according to Claim 8, wherein:
said first area is made a first chip by
cutting said first, second, third and fourth scribe
areas, and

 said second area is made a second chip by
cutting said first, second, third and fifth scribe
areas.

10. The device according to Claim 3, wherein:
 said first wafer further has third through
sixth scribe areas,

 said first area is surrounded by said first,
second, third and fourth scribe areas,

 said second area is surrounded by said first,
second, third and fifth scribe areas,

 said third area is surrounded by said first,
second, fourth and sixth scribe areas, and

 said fourth area is surrounded by said first,
second, fifth and sixth scribe areas.

11. The device according to Claim 10, wherein:

 said first area is made a first chip by
cutting said first, second, third and fourth scribe
areas,

 said second area is made a second chip by
cutting said first, second, third and fifth scribe
areas,

 said third area is made a third chip by
cutting said first, second, fourth and sixth scribe
areas, and

said fourth area is made a fourth chip by cutting said first, second, fifth and sixth scribe areas.

12. A method of manufacturing a device, comprising the steps of:

 forming into a first wafer a first area provided with a first mechanical element and a first pad, a second area provided with a second mechanical element and a second pad, and a first scribe area to separate said first area and said second area from each other, and

 gluing together a first wafer and a second wafer having an aperture and sealing said first mechanical element and said second mechanical element with a prescribed space above over said first mechanical element and said second mechanical element formed in said first wafer, wherein:

 said aperture of said second wafer has a first side and a second side opposed to said first side,

 at the step of gluing together said first wafer and said second wafer:

 said aperture is so arranged as to place a first pad between said first side and said first scribe area and as to place a second pad between said second side and said first scribe area, and the gluing is so accomplished to expose said first pad and said second pad.

13. The method of manufacturing a device according to Claim 12, wherein:

 said first wafer further has a second scribe area and a third scribe area,

 the aperture of said second wafer has a third side crossing said first side and said second side and has a fourth side opposed to said third side, and

 at the step of gluing together said first wafer and said second wafer:

 said first wafer and said second wafer are so glued together that said aperture is so arranged as to place said fourth side between said second scribe area, said first and second pads and to place said third side between said third scribe area, said first and second pads.

14. The method of manufacturing a device according to Claim 12, wherein:

 said first wafer has:

 a second scribe area,

 a third area which is opposed to said first area with said second scribe area in-between and in which a third micro-mechanical element and a third pad are formed, and

 a fourth area which is opposed to said second area with said second scribe area in-between and opposed to said third area with said first scribe area in-between, and in which a fourth micro-mechanical element and a fourth pad are formed, wherein:

said aperture is so arranged as to place the third pad between said first side and said first scribe area and to place the fourth pad between said second side and said first scribe area, and the gluing is so accomplished as to expose said third pad and said fourth pad.

15. The method of manufacturing a device according to Claim 14 wherein:

 said aperture has a third side crossing said first side and said second side and a fourth side opposed to said third side, and

 said first wafer and said second wafer are so glued together that said aperture is so arranged as to place said first and second pads between said third side and said second scribe area and to place said third and fourth pads between said fourth side and said second scribe area.

16. The method of manufacturing a device according to Claim 12, further comprising a step of forming in said first wafer a first laminate film between said first pad and said first mechanical element in said first area and a second laminate film between said second pad and said second mechanical element in said second area, wherein:

 said second wafer seals said first mechanical element and second mechanical elements by being adhered to said first laminate film and said second laminate film.

17. The method of manufacturing a device according to Claim 12 wherein:

 said first wafer has a silicon substrate, the method further comprising a step of forming a transistor over said silicon substrate.

18. The method of manufacturing a device according to Claim 12, wherein said first mechanical element has a movable object having a movable part and a fifth pad formed underneath said movable object.

19. The method of manufacturing a device according to Claim 13 wherein said first area is surrounded by said first scribe area, second scribe area, third scribe area and a fourth scribe area, and
 said second area is surrounded by said first scribe area, second scribe area, third scribe area and a fifth scribe area,

 said method further comprising a step of obtaining a first chip from said first area and a second chip from said second area by cutting off said first scribe area through said fifth scribe area.

20. The method of manufacturing a device according to Claim 14, wherein said first area is surrounded by said first scribe area, said second scribe area, a third scribe area and a fourth scribe area,

 said second area is surrounded by said first scribe area, said second scribe area, said third scribe area and a fifth scribe area,

said third area is surrounded by said first scribe area, said second scribe area, said fourth scribe area and a sixth scribe area, and

 said fourth area is surrounded by said first scribe area, said second scribe area, said fifth scribe area and said sixth scribe area,

 said method further comprising a step of obtaining a first chip from said first area, a second chip from said second area, a third chip from said third area and a fourth chip from said fourth area by cutting off said first scribe area through said sixth scribe area.

21. A device having:

 a substrate having a first side, a second side opposed to said first side, a third side crossing said first and second sides, and a fourth side opposed to said third side,

 a first pad formed over said substrate,
 a mechanical element formed over said substrate, and

 a sealing layer which seals said mechanical element and has a first aperture, wherein:

 said first aperture is so arranged as to place said first pad between a fifth side of said first aperture and the first side of said substrate, and a sixth side which crosses said fifth side of said first aperture and comes into contact with the first side of said substrate is so arranged as to be placed between

the third side of said substrate and said first pad.

22. The device according to Claim 21 wherein:

 said first aperture is arranged in a corner formed between the first side and fourth side of said substrate.

23. The device according to Claim 21 wherein:

 said substrate further has a second pad,
 said sealing layer further has a second aperture, and

 said second aperture is so arranged as to place said second pad between a seventh side of said second aperture and the second side of said substrate, and an eighth side which crosses said seventh side of said second aperture and comes into contact with the second side of said substrate is so arranged as to be placed between the fourth side of said substrate and said second pad.

24. The device according to Claim 23 wherein:

 said first aperture is arranged in a corner formed between the first side and fourth side of said substrate, and

 said second aperture is arranged in a corner formed between the second side and third side of said substrate.

25. The device according to Claim 23 wherein:

 said substrate further has a third pad and a fourth pad,

 said sealing layer further has a third

aperture and a fourth aperture,

 said third aperture is so arranged as to place said third pad between a ninth side of said third aperture and the third side of said substrate, a tenth side which crosses said ninth side of said third aperture and comes into contact with the third side of said substrate is placed between the second side of said substrate and said third pad,

 said fourth aperture is so arranged as to place said fourth pad between an eleventh side of said fourth aperture and the fourth side of said substrate, and a twelfth side which crosses said eleventh side of said fourth aperture and comes into contact with the fourth side of said substrate is so arranged as to be placed between the first side of said substrate and said second pad.

26. The device according to Claim 25, wherein:

 said first aperture is arranged in a corner formed between the first side and fourth side of said substrate,

 said second aperture is arranged in a corner formed between the second side and third side of said substrate,

 said third aperture is arranged in a corner formed between the third side and first side of said substrate, and

 said fourth aperture is arranged in a corner formed between the fourth side and second side of said

substrate.